

Vocal Technique and Repertoire Choice for Middle School Students

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A Senior Thesis submitted in partial fulfillment
of the requirements for graduation
in the Honors Program
Liberty University
Spring 2013

Acceptance of Senior Honors Thesis

This Senior Honors Thesis is accepted in partial
fulfillment of the requirements for graduation from the
Honors Program of Liberty University.

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Abstract

Discovering the correct vocal training techniques for middle school students is a difficult task for music teachers in regards to their changing voices and their new discoveries of interests and preferences. Adolescence marks the final phase in development to vocal maturity and thus, knowledge of how to cultivate an effective teaching style for middle school students is crucial. The following study will attempt to simplify the responsibilities of music teachers by focusing on the vocal development of adolescents, and recommending repertoire choices suitable for middle school students. The study will also analyze differences in gender, age, and ability levels. Ultimately, readers will gain an understanding of what to expect from students in this stage of development.

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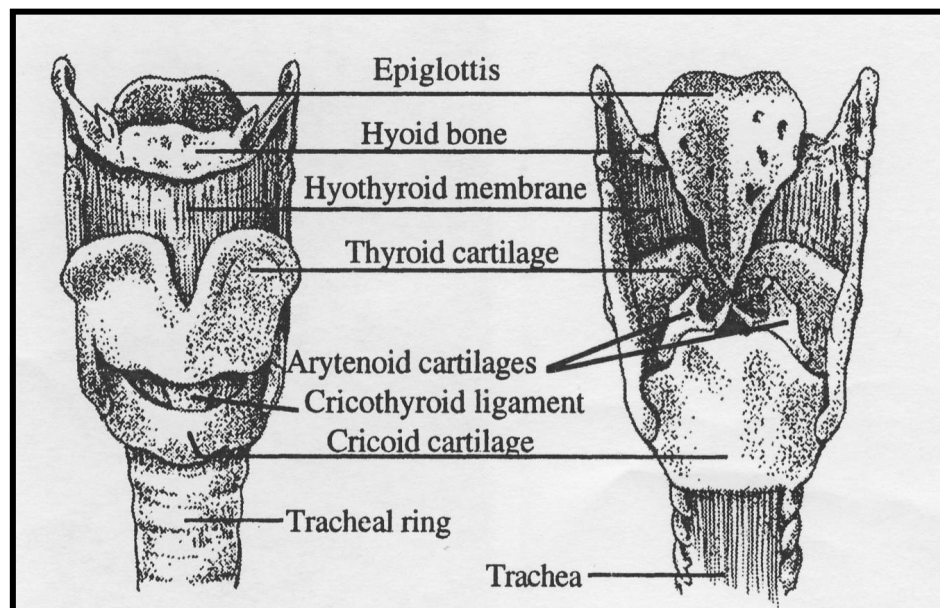
Introduction

Developmental vocal physiology as well as technique and repertoire for teaching are important factors for voice teachers to consider. Vocal physiology involves researching the physical development of a child's voice from infants to post-pubertal adolescents. Techniques used for teaching middle school students in light of laryngeal changes include ways to motivate them to do their best in choirs and voice lessons. Choosing appropriate and suitable repertoire for middle school students is an additional concern for middle school teachers.

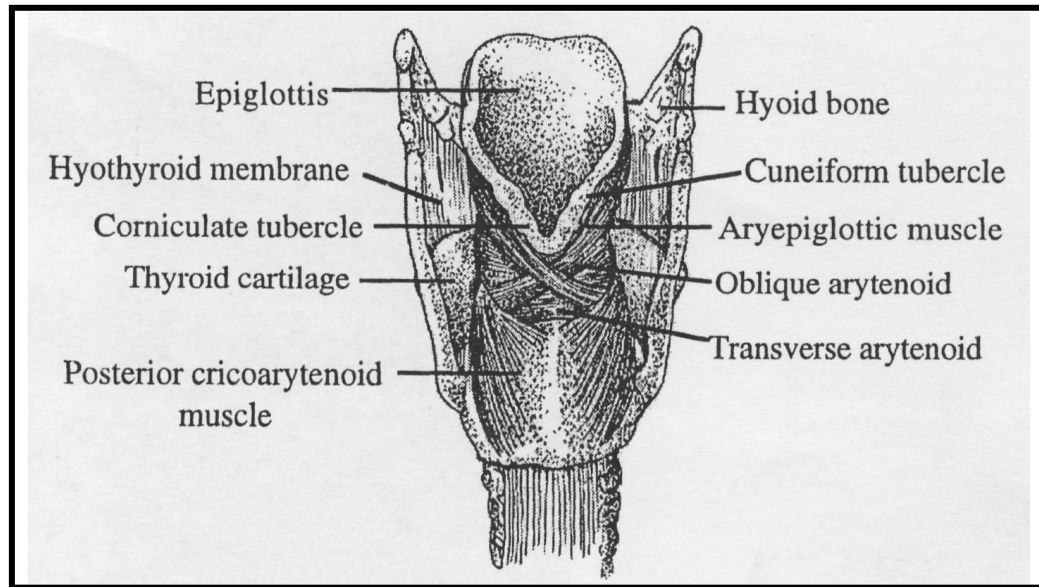
Vocal Physiology

Basic Anatomy

Before beginning a discussion of the development of the larynx, it is important to familiarize oneself with the anatomy of the larynx.



*Figure 1: Cartilages of the Larynx
(Anterior and Posterior Views)*



**Figure 2: Muscles of the Larynx
(Posterior View)**

Figures 1 and 2 provide diagrams of the cartilages and muscles of the larynx. The size differs between males and females. The adult male larynx is 44 millimeters long, with a circumference of 136 millimeters, comparable to the size of a walnut. The adult female larynx is 36 millimeters long, with a circumference of 112 millimeters, comparable to the size of a pecan.¹ The larynx consists of one bone, four cartilages, and a series of muscles, which are connected to the cartilages. The hyoid bone, the only bone in the larynx, is positioned at the top of the larynx. This is the only bone in the human body not connected to any other bone and supported entirely by muscles.²

The four cartilages are the cricoid cartilage, the thyroid cartilage, the arytenoids, and the epiglottis. The cricoid cartilage is shaped like a signet ring, and is positioned at

1. Henry Gray, F. R. S., *Anatomy of the Human Body*. 20th Edition. (Philadelphia, PA: Lea & Febiger, 1918), 1073.

2. Clifton Ware, *Basics of Vocal Pedagogy: The Foundations and Process of Singing* (McGraw Hill-Companies, Inc, 1998), 97.

the base of the larynx. This cartilage connects the larynx to the trachea below. The thyroid cartilage is shaped like a shield, often regarded as the “Adam’s apple” with a small point protruding from the front of the larynx called the “thyroid notch.”³ The cricoid and thyroid cartilages are connected at a hinge, called the “inferior cornu” of the thyroid.⁴ The arytenoid cartilages are attached at the top of the back portion of the cricoid cartilage. They resemble horns, and are attached to muscles responsible for opening the closing the glottis (the space between the vocal folds). Finally, the epiglottis is a leaf-shaped cartilage attached at the inside of the thyroid notch. When one swallows, it folds over the glottis and protects the larynx and trachea from food and liquid entering into the lungs.⁵

The larynx is also comprised of muscles that attach to the cartilages, and forms the means by which phonation occurs. The muscles are grouped as: abductors, adductors, tensors, and relaxers. The abductor muscles, the posterior cricoarytenoid muscles, stretch between the cricoid and the arytenoid cartilages and cause the vocal folds to separate and open the glottis during inhalation and phonation.⁶

The primary adductor muscles that close the glottis are the interarytenoids. There are two sets of these muscles: transverse and oblique. The transverse interarytenoid muscles connect the arytenoid cartilages and cross between them transversely. The oblique interarytenoid muscles connect the top of each arytenoid cartilage to the base of

3. Ibid., 97.

4. Ibid.

5. Ibid., 98.

6. Ibid.

the opposite one, forming the shape of an X. Both sets of interarytenoid muscles adduct the posterior portion of the glottis. The lateral cricoarytenoid muscle closes the anterior portion of the glottis.⁷

The tensor muscles, the cricothyroids, stretch between the cricoid and thyroid cartilages. When they contract, they cause the thyroid cartilage to rock forward, and the vocal folds to stretch and grow thinner. This results in a higher pitch. The relaxer muscles, the thyroarytenoids, work in contrast to the cricothyroid muscles. The thyroarytenoid muscles are connected to the thyroid and arytenoid cartilages, and are responsible for shortening and thickening the vocal folds. These muscles comprise the body of the vocal folds. The arytenoid cartilages are pulled closer to the thyroid cartilage, and as the vocal folds thicken and grow shorter, the resultant pitch is lower.⁸

In order for phonation to occur, air must pass over the vocal folds, or the inner thyroarytenoid muscles, causing them to vibrate. As air comes in contact with the vocal folds, the thickness of the folds combined with the speed of vibration determines the pitch. When singing very low, the vocal folds vibrate about 60 times per second. As the pitch gets higher, the vibrations accelerate, and will vibrate as fast as 2,000 times per second.⁹

A singer must know how to inhale effectively and use the air efficiently while singing. Vocal scientists maintain that the diaphragm is the primary muscle involved in inhalation. Shaped like a parachute, the diaphragm is located at the bottom of the thorax

7. Ware, 100.

8. Ibid., 101.

9. Ingo Titze, *Principles of Voice Production* (Englewood Cliffs, NJ: Prentice Hall, 1994), 188.

and the top of the abdomen. For inhalation to occur, the diaphragm contracts and moves downward, flattening against the abdomen, creating a vacuum in the lungs that allows air to be drawn into them.¹⁰ The abdominal muscles, as well as the intercostals (the muscles between the ribs), are the primary muscles of exhalation because they work as antagonists to the diaphragm. They create a sense of “balanced suppression,” allowing the air to be expelled evenly in a controlled manner over a longer space of time than in ordinary breathing.¹¹

When phonation occurs, the sound resonates in four resonance cavities: the chest and subglottal airways, the larynx, the pharynx and oral cavity, and the nasal and sinus cavities. The first, the chest and subglottal airways, are not significant resonators because they are not easily controlled, and only occur when singers vocalize at very low pitches in “full voice.”¹² Secondly, the larynx is also considered a resonator. Although this cavity is very small, resonance occurs in the space above the glottis and below the rim of the epiglottis (or, the laryngopharynx).¹³

10. Ralph D. Appelman, *The Science of Vocal Pedagogy: Theory and Application* (Bloomington, IN: Indiana University Press, 1967), 32.

11. *Ibid.*, 37.

12. Ware, 140.

13. *Ibid.*, 141.

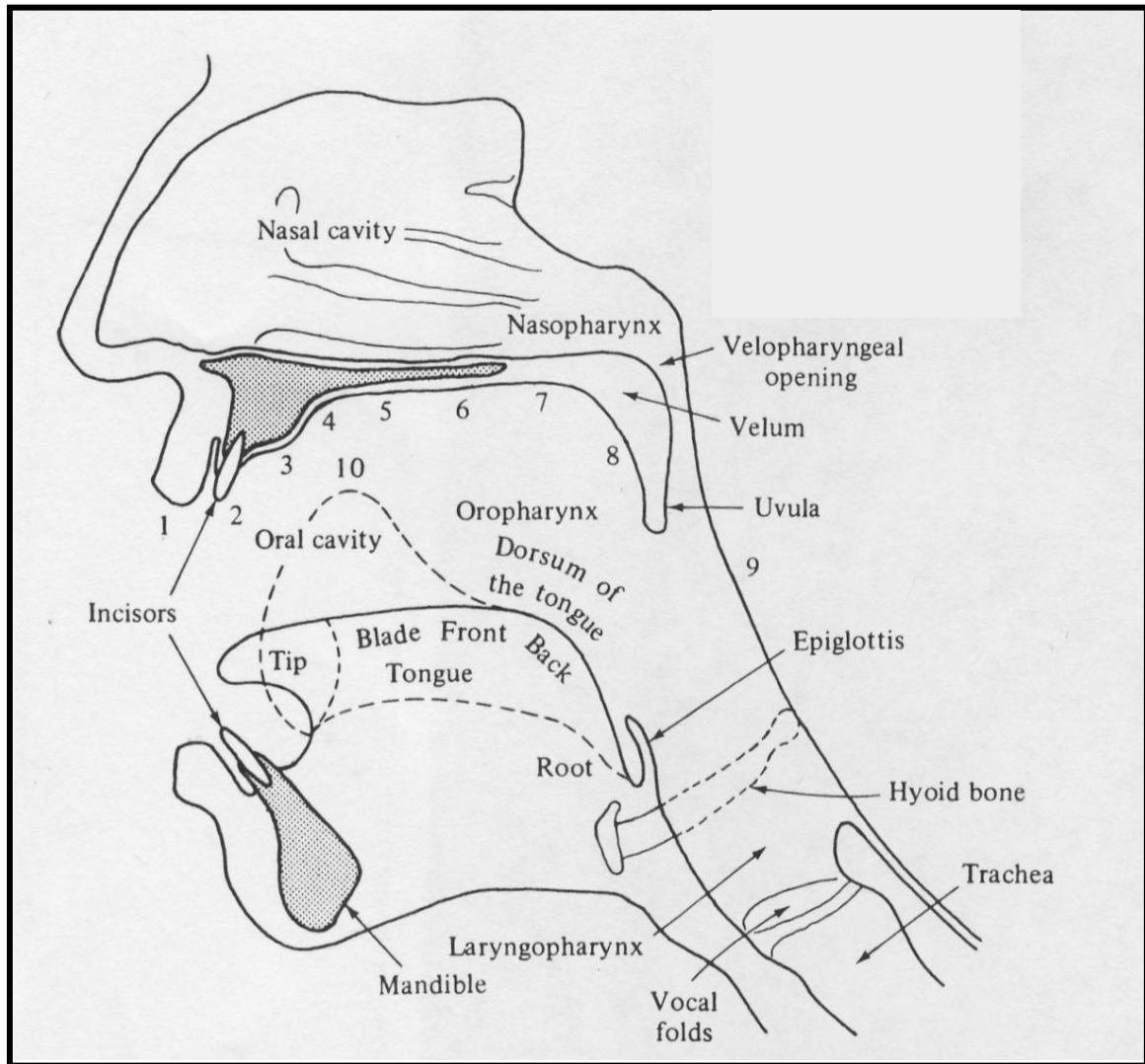


Figure 3: Resonance Cavities

As seen in Figure 3, the oropharynx is the largest resonance cavity. It extends from the top of the epiglottis to the soft palate at the back of the mouth. This area also leads to the oral cavity, or the area of the mouth past the soft palate towards the teeth. The fourth and final resonator is the nasopharynx. This is a cavity directly above the soft palate, which extends to the base of the skull.¹⁴

14. Ware, 142.

Finally, a discussion of registration is necessary to fully understand the vocal apparatus. A frequently adopted opinion by vocal scientists is that there are three registers: modal registration, middle registration, and high-voice registration. Modal, also known as “chest voice,” is used for low pitches. Middle registration, also called “mixed voice,” lies between the modal and high registers. Singers use this register primarily when singing pitches in the middle of their respective ranges. The highest register is known as falsetto for men, and head register for women. This is used to sing very high pitches, with light tone.¹⁵

These registers are differentiated by which muscles are most involved in the production of low and high pitches. In chest voice, the thyroarytenoid muscle is contracted, and the cricothyroid relaxed, whereas in falsetto or head register, the cricothyroid is contracted while the thyroarytenoid relaxes. The transition between each muscle group causes a change in registers. As the pitch rises, the cricothyroid muscles begin to dominate, but this often does not provide enough of an antagonistic resistance to the thyroarytenoid muscles. When the cricothyroid takes over completely and the thyroarytenoid relaxes, it creates a “break” in the voice, an indication that the register has changed from chest to head, which is also referred to as “passaggio.”¹⁶

Laryngeal Development: Infancy Through Puberty

There are three functions of the larynx. The primary function is protecting the lungs by preventing food and liquid from entering the trachea. The secondary function is to provide torque in defecation and childbearing. The third function of the larynx is in

15. Titze, 275.

16. Ware, 118.

phonation. An infant is born with a very high larynx so that the epiglottis is nearly touching the soft palate. After the age of three, the larynx descends the distance of two vertebrae and two intervertebral cartilages.¹⁷ The larynx does not change position again until puberty.¹⁸ In fact, the larynx is not fully functional until a child reaches 10 to 13 years of age. Valerie Trollinger describes the vocal muscles as “blob-like,” thus inhibiting a child’s singing range and ability to change registers.¹⁹

A child’s larynx is higher than an adult’s, and the vocal folds are shorter. As the vocal folds lengthen, the range expands; nevertheless, a child’s range is still very limited. Whereas an adult singer will use a more advanced combination of the muscular and cartilage activities within the larynx to produce pitches in different registers, children obtain high and low pitches only through the lengthening or thickening of the vocal folds while the larynx remains stationary. A child’s vocal fold ligament is not fully functional, and thus, the ability to transition between registers has not yet developed.²⁰ Studies have concluded that even though the larynx is not fully developed, moderate vocal training is not harmful between the ages of 6 and 10.²¹

17. Gray, 1073.

18. Andrew Blitzer, Mitchell F. Brin, and Lorraine Ramig, *Neurologic Disorders of the Larynx*. (New York, NY: Thieme Medical Publishers, Inc., 2009), 3.

19. Valerie Trollinger, “Pediatric Vocal Development and Voice Science: Implications for Teaching Singing,” *General Music Today* 20, no. 3 (2007): 19-25.

20. Ibid.

21. C. A. Barlow, and D. M. Howard, “Voice Source Changes of Child and Adolescent Subjects Undergoing Singing Training – A Preliminary Study,” *Logopedics Phoniatrics Vocology* 27, no. 2 (2002): 66-73.

The most significant physiological changes occur in children once they reach the age of about 11 years old with the onset of puberty, and some changes are different between male and female. Commonly between both genders, the final developments of the larynx and the subsequent voice changes occur six months after puberty begins.²² Although the vocal tract grows in length and volume during this time, females experience different rapidity of growth than males.

Female Pubertal Larynx Development

A girl's larynx has already reached adult size by the time she enters puberty between the ages of 10 and 13.²³ After the onset of puberty, her vocal tract will continue to grow to adult size at a steady pace.²⁴ Although the changes in a girl's voice are not as pronounced as in a boy's voice, she still experiences changes during puberty that affect her singing, in that the fundamental frequency, or the lowest pitch at which she comfortably speaks, is about a major third lower than that of her pre-pubertal voice.²⁵ A girl's voice will begin to develop a deeper and richer quality than her male counterpart, which is sometimes expressed as a "darker tone color."²⁶ According to Lynne Gackle, it

22. Barlow and Howard, 66-73.

23. Ofer Amir, and Tal Biron-Shenal, "The Impact of Hormonal Fluctuations on Female Vocal Folds," *Current Opinion in Otolaryngology & Head & Neck Surgery* 12, no. 3 (2004): 180-184.

24. Floris L. Wuyts, Louis Heylen, et al, "Effects of Age, Sex, and Disorder on Voice Range Profile Characteristics of 230 Children," *Annals of Otology, Rhinology & Laryngology* 112, no. 6 (2003): 540.

25. Amir and Biron-Shental, 180-184.

26. Patrick Freer, *Getting Started with Middle School Chorus*, 2nd edition, (Lanham, MD: Rowman & Littlefield), 66.

is better to think of the female voice as “developing” rather than changing.²⁷ Gackle describes seven symptoms that point toward this development in a pubescent girl’s voice. These symptoms are insecurity of pitch, breaks between registers, huskiness in the voice, voice cracking, hoarseness, a feeling of discomfort when singing, and an inconsistent range.

Insecurity of pitch will cause a girl to feel as if she does not know whether or not she is singing the correct notes. Secondly, she will experience breaks between registers. Her registers are still developing, and as she trains her voice during post-puberty, she will learn to transition between registers more freely without breaking or cracking. It is also common for huskiness to be present in the voice, both in speaking and singing. Gackle states that this occurs because the interarytenoid muscles are not strong enough to pull the vocal folds together and close the glottis completely. Thus, air escaping can cause a husky or breathy sound in the singing and speaking voice.²⁸ Girls will also become hoarse at times and find that singing or speaking will sometimes be uncomfortable.

Gackle says that range, though it will be inconsistent, will begin to increase. A female’s vocal folds grow three to four millimeters or 0.12 to 0.16 inches in length during puberty, and this results in the ability to sing higher and lower. Typically, she will experience growth in the lower part of her range, enabling her to sing about a major third lower as compared to her prepubertal range. Gackle also notes there will be significant

27. Lynn Gackle, “The Young Adolescent Female Voice (Ages 11-15): Classification, Placement, and Development of Tone,” *Choral Journal* 25, no. 8 (1985): 15-18.

28. Ibid.

growth in young girls' upper range as well.²⁹ Other positive changes include greater breath capacity, because a girl's chest circumference and lung capacity increases, and her diaphragm and abdominal muscles strengthen. As stated previously, the larynx moves down during puberty, and the vocal tract grows longer, providing the young singer with more agility and range. The young female voice will also become more resonant as her resonating cavities increase in size and become more functional.³⁰

Male Pubertal Larynx Development

Young male singers entering puberty experience many of the same changes that girls do, but on a larger scale. As seen in Figure 4, the growth of the male larynx is much more pronounced and rapid during puberty than the female larynx. A male's vocal tract also grows in length and thickness during puberty, causing the pitch at which he speaks to drop an octave lower. This is called "mutation" or "change of voice."³¹ Gackle discovered that males encounter a decrease in range at the onset of puberty, followed by a sudden increase. Their voices will also become ambiguous and unsteady, and change or "break" unexpectedly.³²

29. Gackle, 15-18.

30. Ibid.

31. Janice Killian, "A Description of Vocal Maturation Among Fifth-and Sixth-grade Boys," *Journal of Research in Music Education* 47, no. 4 (1999): 357-369.

32. Gackle, 15-18.

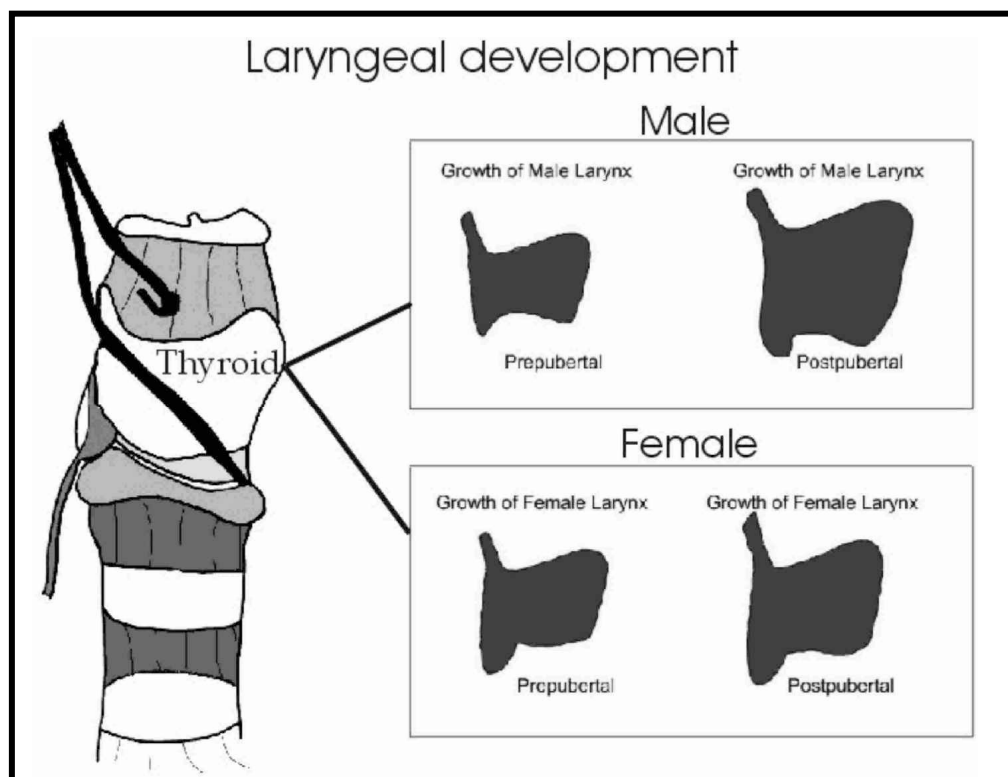


Figure 4: Male and Female Laryngeal Development

John Cooksey describes how the male adolescent voice progresses through five exclusive phases during this stage of pubertal development. He calls these Midvoice I, Midvoice II, Midvoice IIA, New Baritone, and Settling Baritone. The average singing ranges for students during each of these phases are identified in Figure 5. According to Janice Killian, these stages have been tested numerous times and were found accurate as a resource for elementary and middle school music teachers.³³

33. Killian, 357-369.

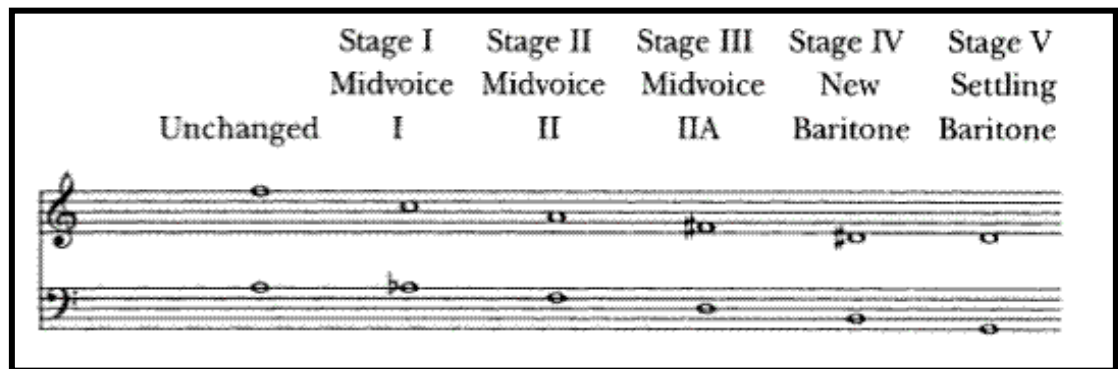


Figure 5: Cooksey's Stages

Vocal Training Techniques

Gackle has identified five considerations for middle school and junior high school music teachers that apply to teaching their students. First, they must understand the voice and how it matures. Secondly, they need to become acquainted with each student's individual voice. Every voice has different "potential, limitations, characteristics, and unique qualities" that need to be taken into consideration.³⁴ Teachers also need to be able to assess the abilities of students, and choose correct repertoire for each voice type. Finally, it is necessary that they recognize if a voice is being used in an unhealthy manner, and address this if needed.³⁵

As children enter middle school, they experience many physical as well as vocal changes, and often become self-conscious. It is important to give children a sense of accomplishment and self-worth during this time of uncertainty. Music teachers must put their students' emotional needs above all else and make sure their students are in an environment in which they are engaged and actively learning. The goal in all voice

34. Gackle, 15-18.

35. Ibid.

lessons, recitals, choir rehearsals, and performances must be that the students have a satisfying experience and are proud of what they have accomplished.³⁶

Trollinger has found that adolescents are quite susceptible to vocal problems, and should be treated with care. Many of the problems young people encounter result from ignorance regarding correct vocal technique. Some of these problems include a forced, harsh tone, jaw tension, high larynx, breathy tone, nasality, or hoarseness. Educating students about using proper technique can rectify these problems before they create permanent damage to their laryngeal muscles.³⁷ An important consideration is that adolescent girls, especially those who mature early, will begin to develop vibrato. It will likely develop slowly, but Trollinger contends that children should never force vibrato, and teachers should not expect it either. She recommends that students who have not yet developed a free and healthy vibrato be encouraged to sing in a pure, straight tone. When demonstrating, she advises teachers to sing in a straight tone as much as possible so that children will not attempt to imitate their vibrato. Trollinger also believes that, especially for choral directors a capella singing is best, with occasional soft accompaniment if necessary, because it is important for young teens not to feel the need to shout or strain to be heard over a loud pop or rock accompaniment.³⁸

Trollinger has determined that the range of students slowly increases as they reach puberty. A typical comfortable range for prepubescent students is B-flat 3 to F5. However, every individual adolescent matures differently, and teachers should listen for a

36. Gackle, 15-18.

37. Paul Roe, *Choral Music Education*, 2nd edition, (Englewood Cliffs, NJ: Prentice-Hall, Inc., 1983): 117-121.

38. Trollinger, 19-25.

student's "pressed" tone that should be avoided because this means that the pitches are not in a comfortable range.³⁹

Regarding choral singing, Janice Killian conducted research on the harmonic pitch-matching ability of 8 to 11 year old children as they approach puberty. Killian found that these children had difficulty matching the middle pitch, or the third of the chords, but were able to match the root and the fifth more easily. Killian also determined that matching the highest pitch is the easiest for beginning voice and choir students. Thus, she suggests that choir directors teach the lowest parts first, and then work their way up to the highest line, which is usually the melody line. This way the students will have learned their own individual parts without confusing them with the melody line.⁴⁰

Vocal Training Techniques: Pubescent Girls

When observing male and female pubertal students, it is apparent that girls do not suffer from as many vocal concerns because the female vocal tract and larynx do not undergo the same significant amount of growth that males experience. However it is important to treat the female voice with as much care as the male voice during puberty because changes are still occurring, even if they are not very apparent.

Gackle conveys several details about the pubertal female voice that are relevant to voice teachers. First of all, she suggests that adolescent female voices be treated as "light" or "rich" sopranos. Although a girl's voice type cannot be established until after her voice has completely developed, the soprano range is comfortable for most girls in this age group. Gackle also recommends that female students change their voice parts

39. Trollinger, 19-25.

40. Killian, 357-369.

frequently to discover what part they are most comfortable singing. Girls often sing first soprano, but as their ranges fluctuate and develop, it is important to provide them with the option of singing second soprano or alto. Likewise, a girl should not feel that she is singing uncomfortably low, and should have the opportunity to sing a higher part if she chooses.⁴¹

Vocal Training Techniques: Pubescent Boys

Although both male and female changing adolescent voices should be treated with the same discretion, males require more effort on the part of teachers. Students need affirmation to keep them confident in their abilities, to cultivate their desire to learn more about music and singing, to help grow their talent, and most importantly, to keep their voices healthy during this crucial adjustment period.⁴²

Regarding choral singing, it is the overall opinion of researchers that boys and girls in middle school should be trained separately in choir. Girls are usually more confident with their singing ability, whereas boys can feel self-conscious, especially when there are girls around whom they want to impress. Training boys on their own will reduce distraction and help them focus on their own training and practice.⁴³ Furthermore, boys can become confused in mixed choirs because they will struggle to find the right octave.⁴⁴

41. Gackle, 15-17.

42. Gordon Harris, "Selecting Solo Repertoire for Male Adolescent Changing Voice Students," *Australian Voice* 12, no. 1 (2006): 24-31.

43. Freer, 65.

44. Nancy Jorgenson, and Catherine Pfeiler, "Successful Single-Sex Offerings in the Choral Department," *Music Educators Journal* 94, no. 5 (2008): 36-40.

Finding choral music for mixed choirs can be difficult, due to insecurity of range experienced by middle school boys and girls. To combat this, Paul Roe suggests finding music for soprano, alto, and cambiata. The cambiata voice range is usually F3 to C5, and is a good choice for changing male voices. As the transition occurs between the pre-pubertal voice to post-pubertal, boys could begin by singing the cambiata part. As boys' ranges begin to settle, they will transition out of singing cambiata and begin experimenting with tenor and baritone parts until they find the part that is most comfortable.⁴⁵

Another way to motivate boys to do their best is to pair a middle school choir with a high school choir occasionally during rehearsals, or for some pieces during a concert. Not only will the older boys help the younger ones with sight-reading and learning their parts, the younger boys will feel that they must strive harder to impress their peers.⁴⁶ If this technique is used, a director must be vigilant in making sure that the younger students are not attempting to sing outside of their comfortable ranges or to push the tone. Discretion must also be used in the seating arrangements for choirs, strategically placing the strongest singers and sight-readers with the weakest, so that the group can achieve a blended, cohesive sound.⁴⁷

Class music lessons can be more of a challenge than choral singing. Julie Skadsem wrote an article entitled "Singing Through the Voice Change" for *General Music Today*, offering helpful suggestions regarding how to help young boys continue

45. Roe, 17-18.

46. Lon Beery, "Music for Men in the Middle," *Choral Journal* 50, no. 4 (2009): 34-43.

47. Jorgenson and Pfeiler, 36-40.

singing throughout their vocal mutation. She recommends several steps for voice teachers to take in order to help adolescent male voice students. These steps are: explaining the science of the change to the students, finding their comfortable ranges, exploring with each individual student the potential his voice holds, and selecting appropriate repertoire for the students.

Pertaining to knowledge, teachers should understand the science of laryngeal development during puberty. Realizing this physical development will allow a better understanding of how to teach the students accordingly. Secondly, when teachers explain the science of the male changing voice to students, it will eliminate frustration in what they are experiencing. Boys will gain an objective understanding of these changes and recognize that it is normal and only temporary.

When choosing appropriate music, teachers must select repertoire that is in a comfortable range for students. Students must never feel the need to strain to sing especially low or high notes. The range needs to be appropriate, as well as the tessitura (where most of the notes in the song lie). If a few students may be able to sing impressive high or low notes, the song should only showcase these briefly, and never linger on pitches that will eventually become uncomfortable to sing. The music must also be at a reasonable difficulty level for students, and the lyrics ought to consist of easily relatable subject matter to keep the students' interest level high.

Finally, teachers need to encourage their male students to fully develop the higher part of their ranges. Skadsem advises that when young male singers do warm-ups, teachers should incorporate descending scales from the highest part of the student's range down to the lower pitches. Another way to persuade boys to sing in the upper part of their

ranges is to challenge them to find popular songs in which a male singer utilizes a higher range, and occasionally have them sing along to these songs. Provided the songs are in a reasonable range for the students, this can help them develop a higher and broader range of pitches.⁴⁸

Repertoire Choice

Perhaps one of the most important responsibilities of voice teachers is choosing repertoire for students. The factors that play into whether or not a vocal piece is the right choice for students are: range, subject matter, difficulty level, overall quality of the piece, and the students' interest in the piece. Repertoire that students can feel confident about will not only boost their morale, but will also be an educational tool to enhance singing and sight-reading ability. In the remainder of this paper, considerations regarding repertoire choice for vocal students and choirs will be addressed.

Choral Music

When choosing repertoire for a choir season, directors need to ensure that the ensemble is motivated to learn the pieces. According to Dennis Siebenaler, interest in music declines in late elementary and early middle school.⁴⁹ This may have to do with the fact that music competes with many other activities in middle school that are deemed more popular for students, especially sports.⁵⁰ Therefore, choosing repertoire is more difficult. However, he also indicates that with more practice time, interest in music tends

48. Julie Skadsem, "Singing Through the Voice Change," *General Music Today* 21, no. 1 (2007): 32-34.

49. Dennis Siebenaler, "Children's Attitudes Toward Singing and Song Recordings related to Gender, Ethnicity, and Age," *UPDATE: Applications of Research in Music Education* 27, no. 1 (2008): 49-56.

50. Freer, 49.

to increase.⁵¹ Thus, directors should not give up on a piece if the choir does not seem to enjoy it the first few times they sing it.

Directors should first survey the choir, and consider several things, such as the students' age and gender, as well as their general level of musical aptitude. Siebenaler found that culture also plays a part in students' song preferences. He taught middle school children a variety of songs and tested their reactions to them. His findings determined that Hispanics enjoy singing Spanish songs.⁵² Students who are not native English speakers have better success with songs that do not have fast or complicated rhythms, and ones with few words and repetitious phrases in English. Most importantly, he found that adolescents enjoy songs with which they are familiar.⁵³ Gordon Harris also indicates that middle school students enjoy songs that "tell a story, are familiar folk tales or legends, or have a religious context."⁵⁴

Solo Repertoire

Sue Boardman and David Alt propose six topics that teachers should bear in mind when choosing music for private voice students. Although these matters can be considered regardless of the age of students, they are specifically designed to help teachers find repertoire for pubertal students experiencing mutation and other vocal changes specific to this age group during middle school and early high school. They are:

51. Dennis Siebenaler, "Student Song Preference in the Elementary Music Class," *Journal of Research in Music Education* 47, no. 3 (1999): 213-223.

52. Ibid.

53. Ibid.

54. Harris, 24-31.

control of breath, range, energy, subject matter, language, and advanced vocal techniques.

The first question pertains to control of breath. If the student is a beginner, breath control has probably not yet been studied. Boardman and Alt suggest choosing songs with shorter phrase lengths, so the music guarantees that the student will be able to make it through the phrases with only a limited ability to obtain a full breath. Additionally, while the student is beginning to learn about breath support, it is important that the beginning of phrases be more difficult than the end, as the support and energy usually drop at the end of phrases.⁵⁵

Teachers must secondly take into consideration the range of the student when choosing repertoire. More importantly, what is the tessitura of the song? Boardman and Alt argue that a song that maintains a tessitura in the middle of the range is best. If the student has the ability to sing high notes, a song with occasional high notes approached by a scale is best. It is also recommended that a song with a brisk line works best to aid in the student's intonation.⁵⁶

A teacher must also ask questions regarding the student's ability to propel air with consistent energy. Is the student able to take in productive breaths and use the breath efficiently? Boardman and Alt encourage the teacher to assist a student in using the abdominal muscles correctly to control the air, and also focus his or her energy to keep the intonation pure and the tone resonant. The accompaniment can help the student with the energy. If the accompaniment is exciting, it cultivates energy. If there are long,

55. Sue Boardman, and David Alt, "Solos and Adolescent Singers," *Music Educators Journal* 78, no. 8 (1992): 44-49.

56. Ibid.

sustained notes, an accompaniment that subdivides the beats, such as an Alberti bass, will help the student feel energized even when holding long notes.⁵⁷

Another suggestion by Boardman and Alt is to consider the subject matter as well as the language in a piece of music. The student will be more motivated to learn the song if he or she can relate to the meaning of the text. Usually songs about young love or sadness are the most relatable, as well as folksongs where the text tells a story. Ultimately, the student needs to be able to bring a character to life when singing.⁵⁸

Boardman and Alt recommend that teachers avoid assigning songs with mature emotional content. An example is “Gretchen am Spinnrade” by Franz Schubert, which could be a popular song for young girls, because of the subject of young love. However, the authors point out that the emotions explored in this piece far transcend the simplicity of young love, and thus should be avoided simply because of the content, not to mention technical difficulty that young students still cannot master.⁵⁹

The sixth question to ask regards language. Teachers should encourage students to develop a character in the piece, but in order for this to be accomplished, the text must first be understood. Boardman and Alt indicate that students need to understand every word they are singing. Thus, songs in English are highly recommended. As young students begin their classical training, Italian art songs are the easiest to sing when different languages are introduced.⁶⁰

57. Boardman and Alt, 44-49.

58. Ibid.

59. Ibid.

60. Ibid.

Finally, teachers need to ask, “What advanced vocal techniques are students able to accomplish, regardless of how beautiful students’ voices may be?” Boardman and Alt contend that they will have very little, if any, vocal technique at their disposal. It is important that students never attempt to force their voices to do something they are not accustomed to. This can lead to vocal straining. If a student has a beautiful voice, it is something to be handled with care. As Boardman and Alt say, “this is a voice with a future!”⁶¹ Thus, a teacher should never assign a young student operatic arias because they are simply too advanced. It can also be too challenging for students to sing at many different dynamic levels; *mezzo forte* is best.⁶²

In short, what creates the best type of vocal piece for a beginning student? It is one with a tessitura that stays in the middle of the student’s range, with occasional high notes approached by scales, *mezzo forte* at a moderately brisk tempo, with an energetic accompaniment. The text should be in English or another language which the student can understand, and the subject matter should be relatable to the student. These may be difficult criterion to follow, yet the more a teacher nurtures good vocal habits through the choice of educational, appropriate pieces for his or her students, the more success these students will have in their future.⁶³

Repertoire Appealing to Female Students

As children enter puberty, male and female voices become distinct, and the search for repertoire should be approached differently for each. As seen in other areas regarding

61. Boardman and Alt, 49

62. Ibid.

63. Ibid.

vocal training, female voices do not experience as many marked changes during puberty as male voices. It has been found that girls are less opinionated regarding the music they sing. Girls show a smaller level of disliking any particular type of music.⁶⁴ In fact, girls have been seen to be more enthusiastic toward singing at 12 to 14 years of age when compared to boys of the same age. Girls have also been found to prefer classical, more serious styles than boys, with a slow tempo and a legato melody line.⁶⁵

Teachers will find many collections of educational solo literature at their disposal. Before the student is introduced to Italian art songs, English folksongs and sacred songs are ideal. Current collections include *36 Solos for Young Singers*, compiled by Joan Frey Boytim and published by Hal Leonard, or *15 Easy Folksong Arrangements*, edited by Richard Walters and also published by Hal Leonard. Included in the latter is the popular 16th century English folksong, “Greensleeves.” Featuring three verses with a repeated refrain, the song is a manageable length for a beginning singer. The words focus on lost love, and the text is set in a manner that allows the singer to breathe between short phrases. The accompaniment is simple, and doubles the part of the singer. In the High Voice version of the collection, the highest note is an F4, sung twice in each refrain. This would allow a young soprano to utilize her high notes without lingering in a challenging tessitura. The tessitura in the High Voice version stays in the middle soprano range. The melody is often stepwise, with several half steps or intervals that may be difficult to hear.

64. David Hargreaves, Chris Comber, and Ann Colley, “Effects of Age, Gender, and Training on Musical Preferences of British Secondary School Students,” *Journal of Research in Music Education* 43, no. 3 (1995): 242-250.

65. Siebenaler, 213-223.

This again provides the student with the opportunity to improve on personal musicianship.⁶⁶

Repertoire Appealing to Male Students

Finding music that appeals to young male students can be more of a challenge for voice teachers, as they tend to dislike more types of music as they progress through middle school. Ultimately, the music should keep them interested. Songs that accomplish this, suggested by Beery, are pieces such as work songs, spirituals, or music from the 1950s.⁶⁷ Unlike 12 to 14 year old girls who were found to be enthusiastic about singing, boys are not as interested. Their interest depends on the type of genre they are singing. Siebenaler discovered that boys prefer jazz songs, as well as popular music.⁶⁸ Gordon Harris suggests texts based on noble, heroic, religious, or humorous subject matter. Texts that will make the singers interested are essential.⁶⁹

It is important to consider that male middle school students' voices do not have much agility. Thus, a moderate tempo, with a dynamic resting between *piano* and *mezzo forte* is best. As with previously mentioned considerations, teachers need to ensure, especially with young male singers, that the tessitura is appropriate for their respective voices. However, this does not mean that the music be too easy or basic. Harris recommends pieces that incorporate a few difficult intervals or rhythms with a melody

66. Sixteenth Century English Folksong arranged by B. Stanley, "Greensleeves," In *15 Easy Folksong Arrangements*, ed. Richard Walters (Milwaukee, WI: Hal Leonard, 2004): 16-19.

67. Beery, 34-43.

68. Siebenaler, 213-223.

69. Harris, 24-31.

line that stays in a comfortable tessitura. Harris also stresses that songs should avoid too many register changes. Because registers are beginning to develop, young boys should avoid singing music with quick register changes, which might inhibit their development by straining the growing muscles of the larynx.⁷⁰ Thus, music should have a small range and incorporate mostly stepwise movement, in a simple tenor or baritone range.⁷¹

Conclusion

Taking on the responsibility of teaching voice to middle school children is an intimidating task. This thesis discusses how a child's voice develops from infancy through puberty, and specifically how the larynx and vocal apparatus develops throughout puberty. Other considerations such as techniques that voice teachers and choir directors can use are presented. Another subject explored is how teachers may choose suitable repertoire that is educational, challenging, fulfilling and enjoyable for students in this age category. These matters are studied with the purpose of equipping educators to effectively meet the specific needs of adolescent voice students. This study will make middle school music teachers better prepared to provide a pleasant educational musical experience based on the information presented in this thesis.

70. Harris, 24-31.

71. Skadsem, 32-34.

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